WHAT IS CLAIMED

1. An AC-DC adapter interface, for a utility device and battery charger circuit, that is operative to rapidly interrupt the supply of battery charging current, while maintaining current flow to said utility device, in response to the total current being drawn from said adapter exceeding a prescribed limit, and thereafter allow the battery charging current to gradually increase to a level that will not cause the total current being drawn from said adapter to exceed said prescribed limit.

2. A DC power interface having a first DC path for supplying DC power from a DC power source to a utility device, and a second DC path for charging a battery that can be used for powering said utility device, comprising:

an input port that is adapted to be coupled to said DC power source;

a first output port that is adapted to be coupled to said utility device and is coupled to said first input port by way of said first DC path;

a second output port that is adapted to be coupled to said battery and to said second DC path;

a battery charging circuit coupled to said first DC path and being operative to generate DC power for application to said second DC path and said second output port for charging said battery; and

a control circuit coupled to monitor current flow

through said first DC path and being operative to disable the operation of said battery charging circuit in response to current flow through said first DC path exceeding a prescribed threshold.

3. The DC power interface according to claim 2, wherein said battery charging circuit contains a pulse width modulator controlled power generation circuit, and said control circuit is operative to interrupt the operation of said pulse width modulator, in response to current flow through said first DC path exceeding said prescribed threshold.

4. The DC power interface according to claim 3, wherein said prescribed threshold is a value in excess of one-hundred percent of a rated current drawn by said utility device.

5. The DC power interface according to claim 3, wherein said control circuit comprises a one-shot that produces an output pulse of sufficient duration to interrupt operation of said pulse width modulator.

6. The DC power interface according to claim 3, wherein said control circuit further comprises an error amplifier that is coupled to controllably adjust the duty cycle of said pulse width modulator, in response to current flow through said first DC path exceeding a reference current less than said prescribed threshold.

7. A DC power interface having a first DC path for supplying DC power from a DC power source to a utility device, and a second DC path for charging a battery that can be used for powering said utility device, comprising:

an input port that is adapted to be coupled to said DC power source;

a first output port that is adapted to be coupled to said utility device and is coupled to said first input port by way of said first DC path;

a second output port that is adapted to be coupled to said battery and to said second DC path;

a battery charging circuit coupled to said first DC path and being operative to generate DC power for application to said second DC path and said second output port for charging said battery; and

a control circuit coupled to monitor current flow through said first DC path and being operative to cause said battery charging circuit to reduce the amount of charging current supplied thereby in response to current flow through said first DC path exceeding a prescribed threshold.

8. The DC power interface according to claim 7, wherein said battery charging circuit contains a pulse width modulator controlled power generation circuit, and said control circuit comprises a one-shot that produces an output pulse that causes a reduction in the duty

cycle of said pulse width modulator, in response to current flow through said first DC path exceeding said prescribed threshold.

9. A method of operating a DC power interface having:

a first DC path for supplying DC power from a DC power source to a utility device;

a second DC path for charging a battery that can be used for powering said utility device;

an input port that is adapted to be coupled to said DC power source;

a first output port that is adapted to be coupled to said utility device and is coupled to said first input port by way of said first DC path;

a second output port that is adapted to be coupled to said battery and to said second DC path; and

a battery charging circuit coupled to said first DC path and being operative to generate DC power for application to said second DC path and said second output port for charging said battery;

said method comprising the steps of:

(a) monitoring current flow through said first DC path; and

(b) controllably reducing the effective operation of said battery charging circuit in response to current flow through said first DC path as monitored in step (a) exceeding a prescribed threshold.

10. The method according to claim 9, wherein said battery charging circuit contains a pulse width modulator controlled power generation circuit, and step (b) comprises selectively interrupting the operation of said pulse width modulator, in response to current flow through said first DC path exceeding said prescribed threshold, and thereafter allowing said pulse width modulator to gradually resume control of operation of said power generation circuit.

11. The method according to claim 9, wherein said battery charging circuit contains a pulse width modulator controlled power generation circuit, and step (b) comprises controllably and repetitively reducing the duty cycle of said pulse width modulator, as necessary, in response to current flow through said first DC path exceeding said prescribed threshold, to reduce current flow through said first DC path to no more than said prescribed threshold.

12. The method according to claim 9, wherein said prescribed threshold is a value in excess of one-hundred percent of a rated current drawn by said utility device.